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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/904,282	07/12/2001	Jerome P. Fanucci	KAZAK-004XX	2073

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BOSTON, MA 02109

EXAMINER

GOFF II, JOHN L

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 08/14/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/904,282

Applicant(s)

FANUCCI ET AL.

Examiner

John L. Goff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-14 and 16-24 is/are pending in the application.
- 4a) Of the above claim(s) 3, 4, 9, 10 and 21-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5, 7, 8, 11-14 and 16-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to Amendment A filed on 5/27/03.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
4. Claims 1, 2, 5, 7, 8, 11-14, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (specification pages 1-3 and 11) in view of Reeves et al. (U.S. Patent 4,463,043) and Vane (U.S. Patent 5,055,242).

The admitted prior art is directed to a pultrusion process for forming a composite structural sandwich. The admitted prior art teaches the process comprises feeding a plurality of core elements (homogenous closed-cell foam) butted edge-to-edge in a process direction, feeding upper and lower fiber face skins onto the core elements to form a sandwich arrangement, wetting out the sandwich arrangement with resin, pulling the sandwich through a heated pultrusion die,

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and heating the sandwich arrangement downstream of the pultrusion die to further cure the resin and form the composite structural sandwich (Specification page 2, lines 23-31 and page 3, lines 1-2 and 9-22). The admitted prior art is silent as to inserting rigidizable structural elements at the edge-to-edge interface of the core elements. One of ordinary skill in the art at the time the invention was made would have readily appreciated modifying the admitted prior to incorporate rigidizable structural elements at the edge-to-edge interface of the core elements as it was a well known technique in the art for providing the composite structural sandwich with increased structural rigidity as shown for example by Reeves et al. Furthermore, while Reeves et al. do not specifically suggest the structural elements can be used in a pultrusion process such as that taught by the admitted prior art, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the structural elements taught by Reeves et al. in the pultrusion process taught by the admitted prior art as it was well known in the art to incorporate structural elements into pultrusion processes as shown for example by Vane.

As to impregnating the structural elements with the resin used to wet out the face skins, it is noted Reeves et al. teach the rigidizable structural elements are formed of glass cloth and they are bonded to the foam cores and face skins using the resin that bonds the face skins to the foam cores and Vane teaches wetting out the assembly with resin wherein resin is impregnated into the substrate layers and the reinforcing material to bond the layers together such that it would have been obvious to one of ordinary skill in the art at the time the invention was made that the rigidizable structural element taught by the admitted prior art as modified by Reeves et al. and Vane would be impregnated with resin during the wetting out process in order to bond the structural elements to the foam cores and fiber face skins.

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Reeves et al. are directed to a building panel (composite structural sandwich) comprising a plurality of foam cores butted edge-to-edge with upper and lower face skins attached to the cores using resin (Figures 1-3 and Column 3, lines 24-27, 32-34, and 43-49). Reeves et al. teach inserting structural elements at the edge-to-edge interface of the core elements to provide the panel with increased structural rigidity and a firebreak (Column 3, lines 27-30 and Column 5, lines 28-31 and 35-37). Reeves et al. further teach the structural elements comprise several layers of glass cloth, and the structural elements are bonded to the foam cores and face skins using the resin that bonds the face skins to the foam cores, i.e. the structural elements are rigidizable (Column 5, lines 37-45).

Vane is directed to a pultrusion process for forming reinforced articles. Vane teaches a method comprising providing superimposed substrate layers, inserting reinforcing material, i.e. rigidizable structural elements, between any of the adjacent layers, stitching together the layers, wetting out the assembly with resin wherein resin is impregnated into the substrate layers and the reinforcing material, pulling the assembly through a pultrusion die, and curing the resin (Figures 1 and 3 and Column 2, lines 15-25 and Column 4, lines 15-18 and Column 5, lines 41-53 and 60-65 and Column 6, lines 29-32).

5. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Vane (U.S. Patent 5,055,242).

The admitted prior art is directed to a pultrusion process for forming a composite structural sandwich. The admitted prior art teaches the process comprises feeding a plurality of core elements (homogenous closed-cell foam) butted edge-to-edge in a process direction, feeding upper and lower fiber face skins onto the core elements to form a sandwich arrangement, wetting

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out the sandwich arrangement with resin, pulling the sandwich through a heated pultrusion die, and heating the sandwich arrangement downstream of the pultrusion die to further cure the resin and form the composite structural sandwich (Specification page 2, lines 23-31 and page 3, lines 1-2 and 9-22). The admitted prior art further teaches it is known to use core elements for the composite structural sandwich that include reinforcing stitching (Specification page 11, lines 15-17 and in particular Figure 10 and Column 8, lines 7-18 of Day (U.S. Patent 5,834,082)). The admitted prior art is silent as to stitching the core elements using in-line stitching. However, it would have been well within the purview of one of ordinary skill in the art at the time the invention was made to form the stitched core elements taught by the admitted prior art using an in-line stitching operation as it was well known in the pultrusion art to apply stitching to pre-pultruded substrates in this manner as shown for example by Vane.

Vane is directed to a pultrusion process for forming reinforced articles. Vane teaches a method comprising providing superimposed substrate layers, inserting reinforcing material, i.e. rigidizable structural elements, between any of the adjacent layers, stitching together the layers, wetting out the assembly with resin wherein resin is impregnated into the substrate layers and the reinforcing material, pulling the assembly through a pultrusion die, and curing the resin (Figures 1 and 3 and Column 2, lines 15-25 and Column 4, lines 15-18 and Column 5, lines 41-53 and 60-65 and Column 6, lines 29-32).

Response to Arguments

6. Applicant's arguments with respect to claims 1, 2, 5, 7, 8, 11-14, and 16-20 have been considered but are moot in view of the new ground(s) of rejection. It is noted Vane is applied to

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show it is known in pultrusion processes to wet out the inserted structural elements with resin during the wet out of all other layers, i.e. in response to amended claim 1, and Vane is also applied to show in-line stitching of pre-pultruded substrates, i.e. in response to amended claim 19. Applicant argues Reeves et al. are directed to using structural elements in a batch process and that there is no teaching or suggestion to use the structural elements taught by Reeves et al. in a continuous process such as pultrusion. Absent any unexpected results, one of ordinary skill in the art at the time the invention was made would have readily appreciated that the structural elements taught by Reeves et al. could be used in a continuous process such as pultrusion in addition to batch processes as doing so would require nothing more than ordinary skill and routine experimentation. Further, Vane shows that it was known in the art to incorporate structural elements, e.g. rigidizable elements, into pultruded products.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **703-305-7481**. The examiner can normally be reached on M-Th (8 - 5) and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on 703-308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



John L. Goff
August 6, 2003



Michael W. Ball
Supervisory Patent Examiner
Technology Center 1700